

Appln No. 10/622,213
Amdt date January 9, 2006
Reply to Office action of September 8, 2005

REMARKS/ARGUMENTS

Claims 1, 2, 5, 6, 9-23 and 26 remain rejected in the present application, of which claims 1, 13, 14 and 18 are independent. Claims 3, 4 and 7 have been withdrawn from consideration. Claims 8 and 24-25 are canceled, and claims 1, 2, 9, 13, 14 and 18 are amended herein. New claims 27 and 28 have been added. Applicants request reconsideration and allowance of claims 1, 2, 5, 6, 9-23 and 26. Applicants further request consideration on the merit and allowance of new claims 27 and 28.

I. Substance of the Interview

Applicants thank the Examiner for the time and courtesy extended to Applicants' attorney during the telephone interview of November 1, 2005. During the telephone interview, claims 1, 13 and 14 were discussed in reference to the cited references including U.S. Patent No. 6,950,252 ("Fettes") and U.S. Patent Application Publication No. 2002/0050003 ("Perry"). No agreement as to the allowance of any claims was reached, however.

II. Rejection of Claims 1, 2 and 9 under 35 U.S.C. § 103(a) over Kyle

Claims 1, 2 and 9 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,105,529 ("Kyle").

In rejecting claim 1, the Examiner contends that "[t]he hinge assembly (Figs. 2A, 2B, 3A, 3B) [of Kyle] includes . . .

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spring member (about 18, 14) disposed between the mounting bracket and the support arm (about 20)." First of all, the "spring member" of Kyle appears to be a coil spring and is different from the gas spring of the present application as recited in claim 1, for example, "a gas spring disposed between the mounting bracket and the support arm." Therefore, Kyle does not teach or suggest all elements of claim 1.

While the Examiner admits that Kyle "does not specifically disclose that the spring member forms an angle of less than approximately 45 degrees" on page 2 of the Office Action, the Examiner contends that "it would have been obvious to one of ordinary skill in the art . . . to recognize that the angle (formed by element 14 and the top of the assembly) is of less than approximately 45 degrees," and cites FIG. 3A.

According to claim 1, however, "the gas spring is adapted . . . to form an angle of less than approximately 45 degrees . . . when the spa cover is in the fully open position in which the spa cover forms an approximately 90 degree angle with respect to the top of the spa." (Emphasis Added). On the other hand, it is clear in FIG. 3A cited by the Examiner that Kyle discloses a hatch that forms about 180 degrees with respect to a top surface in a fully open position. In fact, Col. 3, line 64 through Col. 4, line 2 recites "[t]hen, as the hatch cover 8 approaches a fully opened position (180°) as shown in FIG. 3a" Therefore, Kyle also lacks the limitation of "the fully open position in which the spa cover forms an approximately 90 degree angle with respect to the top of the spa".

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as the spa cover is moved toward the fully open position." When comparing FIGs. 1, 2A and 3A, it is clear that the flexible coupling 18 (which appears to be a spring) is not adapted to be "extended and inclined upward in a direction toward a rear end . . . as the spa cover is moved toward the fully open position."

Further, claim 1 recites, in a relevant portion, "the gas spring is adapted to . . . be compressed as the spa cover is moved toward the fully closed position such that the gas spring is adapted to resist movement of the spa cover from the fully open position toward the fully closed position." The flexible coupling 18 is not adapted to be compressed as the spa cover is moved toward the fully closed position, and Kyle does not teach or suggest that its coil spring is adapted to resist movement of the cover from a fully open position toward a fully closed position.

According to MPEP § 2142, in order to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

Since Kyle does not teach or suggest all the claim limitations of claim 1, including the below limitation,

a gas spring disposed between the mounting bracket and the support arm, wherein the gas spring is extended and inclined upward in a direction toward a rear end

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of the spa from an end coupled to the mounting bracket to another end coupled to the support arm as the spa cover is moved toward the fully open position and forms an angle of less than approximately 45 degrees with respect to the top of the spa when the spa cover is in the fully open position in which the spa cover forms an approximately 90 degree angle with respect to the top of the spa and a rear end of the spa cover is at or near the top of the spa, and is compressed as the spa cover is moved toward the fully closed position such that the gas spring resists movement of the spa cover from the fully open position toward the fully closed position,

the *prima facie* case of obviousness for Claim 1 is not met by Kyle. Therefore, Claim 1 is patentably distinguishable over Kyle. Therefore, Applicants request that the rejection of claim 1 over Kyle be withdrawn.

Since claims 2 and 9 depend from claim 1, they incorporate all the terms and limitations of claim 1 in addition to other limitations, which together further patentably distinguish them over the cited references. Therefore, Applicants request that the rejection of claims 2 and 9 over Kyle be withdrawn.

III. Rejection of Claims 1, 2, 5, 6, 8, 9, 14, 16, 17, 24 and 25 under 35 U.S.C. § 103(a) over Fettes

Claims 1, 2, 5, 6, 8, 9, 14, 16, 17, 24 and 25 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Fettes. Since claims 8, 24 and 25 are canceled herein, the rejection of claims 8, 24 and 25 is now moot.

In rejecting claim 1, the Examiner contends on page 3 of the Office Action that Fettes discloses that "[t]he hinge

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assembly includes a mounting bracket (202) disposed near the top of the spa, a support arm (22) pivotally coupled to the mounting bracket about an axis of rotation (at 29) . . . and spring member (32) disposed between the mounting bracket and the support arm," and cites FIGs. 1, 15 and 16 of Fettes. The Examiner also contends that "[e]ven though Fettes reference does not specifically disclose that the spring member forms an angle of less than approximately 45 degrees, it would have been obvious to one of ordinary skill in the art to at the time the invention was made to employ such angle degrees for the spring member . . .," and cites FIG. 15.

Applicants submit, however, that the spring member in FIGs. 1, 15 and 16 is vastly different from "the gas spring" in claim 1 of the present invention because of at least the following reasons. First of all, the spring 32 in FIGs. 1, 15 and 16 of Fettes is an extended coil spring. (For example, see FIGs. 1, 15 and 16; Col. 17, line 47), and is not a gas spring.

Further, Fettes recites in Col. 18, lines 12-17, ". . . when the cover 16 is deployed in a position atop the spa tub 12 covering the surface thereof. In this position the coil spring 32 is extended a considerable distance under tension, and thereby exerts a strong counterclockwise force tending to raise the spa cover 16" (Emphasis Added), and recites in Col. 18, lines 25-29, "when the cover 16 is in a raised disposition, suspended from the cover-engaging and lift grip assembly 66, the spring 32 is relaxed considerably, as illustrated in FIG. 15, and thereby exerts a much smaller force tending to open the cover 16."

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On the other hand, claim 1 of the present application recites, in a relevant portion, "the gas spring is adapted to be extended and inclined upward in a direction toward a rear end of the spa from an end coupled to the mounting bracket to another end coupled to the support arm as the spa cover is moved toward the fully open position and to form an angle of less than approximately 45 degrees with respect to the top of the spa when the spa cover is in the fully open position in which the spa cover forms an approximately 90 degree angle with respect to the top of the spa and a rear end of the spa cover is at or near the top of the spa, and be compressed as the spa cover is moved toward the fully closed position such that the gas spring is adapted to resist movement of the spa cover from the fully open position toward the fully closed position." (Emphasis Added).

Hence, whereas the gas spring of claim 1 is extended as the spa cover is moved toward the fully open position and compressed as the spa cover is moved toward the fully closed position, the coil spring of Fettes is extended when the spa cover is on top of the spa tub 12 (i.e., a closed position) and is relaxed when the spa cover is in a raised position (i.e., an open position). Therefore, Fettes clearly teaches away from claim 1 of the present application. Since Fettes does not teach or suggest one or more limitations of claim 1, and in fact appears to teach away from at least one limitation, *prima facie* case of obviousness cannot be established for claim 1 over Fettes. Therefore, Applicants request that the rejection of claim 1 be withdrawn.

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Since claims 2, 5, 6 and 9 depend from claim 1, they each incorporate all the terms and limitations of claim 1 in addition to other limitations, which together further patentably distinguish them over the cited references. Therefore, Applicants request that the rejection of claims 2, 5, 6 and 9 over Fettes be withdrawn.

Claim 14 recites, in a relevant portion, "[a] spa system comprising . . . a gas spring disposed between the mounting bracket and the support arm, wherein the gas spring is extended and inclined upward in a direction toward a rear end of the spa from an end coupled to the mounting bracket to another end coupled to the support arm as the spa cover is moved toward the fully open position and forms an angle of less than approximately 45 degrees with respect to the top of the spa when the spa cover is in the fully open position in which the spa cover forms an approximately 90 degree angle with respect to the top of the spa and a rear end of the spa cover is at or near the top of the spa, and is compressed as the spa cover is moved toward the fully closed position such that the gas spring resists movement of the spa cover from the fully open position toward the fully closed position." For reasons that are substantially the same as those given above in reference to claim 1, claim 14 is patentably distinguishable over Fettes. Therefore, Applicants request that the rejection of claim 14 be withdrawn.

Since claims 16 and 17 depend from claim 14, they each incorporate all the terms and limitations of claim 14 in addition to other limitations, which together further patentably

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distinguish them over the cited references. Therefore, Applicants request that the rejection of claims 16 and 17 over Fettes be withdrawn.

IV. Rejection of Claims 10-12, 15, 18, 20-23 and 26 under 35 U.S.C. § 103(a) over Fettes in view of U.S. Patent No. 6,795,984 ("Brady")

Claims 10-12, 15, 18, 20-23 and 26 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Fettes in view of Brady. Here, Brady is being cited for the proposition that it discloses "another hinge assembly for a spa cover having a support arm (1,9) attached to the spa cover (15) via a metal plate (5)." As such, the Examiner contends "it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the Fettes hinge assembly by employing a metal plate in view of the teaching of Brady." However, Brady does not overcome the deficiency of Fettes to reject claims 1 and 14.

Since claims 10-12 and 15 depend, directly or indirectly, from claim 1 or 14, they each incorporate all the terms and limitations of claim 1 or 14, in addition to other limitations, which together further patentably distinguish them over the cited reference. Therefore, Applicants request that the rejection of claims 10-12 and 15 over Fettes in view of Brady be withdrawn.

Claim 18 recites, in a relevant portion, "orienting the gas spring such that it is extended and inclined upward in a direction toward a rear end of the spa from an end coupled to

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the mounting bracket to another end coupled to the support arm as the spa cover is moved from a fully closed position to a fully open position and forms an angle of 45 degrees or less with respect to a top of the spa when the spa cover is in the fully open position in which the spa cover forms an approximately 90 degree angle with respect to the top of the spa and a rear end of the spa cover is at or near the top of the spa, and is compressed as the spa cover is moved toward the fully closed position such that the gas spring resists movement of the spa cover from the fully open position toward the fully closed position."

The Examiner rejected claims 18, 20-23 and 26 allegedly because "the method as claimed would be inherent during the normal use and operation of the modified Fettes device." However, as discussed in Section III above, claim 1 is patentably distinguishable over Fettes. Hence, claim 18 is patentably distinguishable over Fettes for similar reasons. By way of example, Fettes does not teach or suggest ". . . the gas spring . . . is extended and inclined upward . . . as the spa cover is moved from a fully closed position to a fully open position . . . and is compressed as the spa cover is moved toward the fully closed position such that the gas spring resists movement of the spa cover from the fully open position toward the fully closed position." Therefore, claim 18 is patentably distinguishable over Fettes.

Since Brady was cited only for the proposition that it discloses "another hinge assembly for a spa cover having a support arm (1,9) attached to the spa cover (15) via a metal

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plate (5)," and does not overcome the deficiency of Fettes to reject claim 18 (for substantially the same reason as discussed above in reference to claim 10), claim 18 is patentably distinguishable over Brady. Therefore, Applicants request that the rejection of claim 18 over Fettes in view of Bray be withdrawn.

Since claims 20-23 and 26 depend from claim 18, they each incorporate all the terms and limitations of claim 18, in addition to other limitations, which together further patentably distinguish them over the cited reference. Therefore, Applicants request that the rejection of claims 20-23 and 26 over Fettes in view of Brady be withdrawn.

V. Rejection of Claims 1, 2, 5-8 and 10-26 under 35 U.S.C. § 103(a) over U.S. Patent Application Publication No. 2002/0050003 ("Perry") in view of Brady and U.S. Patent No. 5,692,864 ("Powell et al.")

Claims 1, 2, 5-8 and 10-26 have been rejected under 35 U.S.C. § 103(a) over Perry in view of Brady and Powell et al. Since claims 8 and 24-25 are canceled herein, their rejection is now moot.

In rejecting claim 1, the Examiner admits that "the Perry reference does not specifically disclose that the spring member forms an angle of less than approximately 45 degrees." However, the Examiner contends that "it would have been obvious to one of ordinary skill in the art to at the time the invention was made to have modified the Perry hinge assembly by employing a mounting configuration (as evidenced by Fettes mounting

configurations shown in Figure 13 & 14) so that the spring member forms an angle of less than approximately 45 degrees since discovering an optimum value for degrees of an angle on the basis of its mounting configuration involve only routine skill in the art."

Applicants traverse because of at least the following reasons. First, FIG. 14 of Fettes (assuming U.S. Patent No. 5,950,252 previously cited) also illustrates that the gas spring 122 forms an angle of more than 45 degrees, in fact close to 90 degrees, with respect to the top of the spa when the spa cover is in a fully open position, and does not teach or suggest an angle of less than 45 degrees.

Second, Perry teaches away from the present invention because it solves the same problem as that solved by exemplary embodiments of the present invention in a different manner. By way of example, one of the problems solved by the present invention is that "spa covers in an upright position are more susceptible to a gust of wind that blows against it from the rear or other forces that tend to close the spa cover when an occupant is in the spa." as stated on page 1, lines 27-31 of the present application. Perry solves this problem of keeping the spa cover in the upright position by adding a gas spring lock 134 and a locking collar 139 as can be seen in FIG. 7 to lock the gas spring 48 into position, i.e., the gas spring 48 cannot be compressed. (See paragraph [0048] of Perry). This appears to be Perry's solution for keeping the spa cover in an upright position.

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On the other hand, according to exemplary embodiments of the present invention, the gas spring is adapted "to form an angle of less than approximately 45 degrees with respect to the top of the spa when the spa cover is in the fully open position in which the spa cover forms an approximately 90 degree angle with respect to the top of the spa and a rear end of the spa cover is at or near the top of the spa, and be compressed as the spa cover is moved toward the fully closed position . . . " such that the angling of the gas spring is used to resist the movement of the spa cover from the fully open position toward the fully closed position. Therefore, it would not have been obvious at the time the invention was made to have modified the Perry hinge assembly to have the gas spring to form an angle of less than approximately 45 degrees, because Perry already presents a solution of using a gas spring lock 134 and a locking collar 139 for keeping the spa cover in the fully open position.

Since neither Brady nor Powell et al. teaches or suggests the above limitation of claim 1, claim 1 is patentably distinguishable over Perry in view of Brady and Powell et al. Therefore, Applicants request that the rejection of claim 1 be withdrawn and that it be allowed. Since claims 2, 5, 6 and 9-12 depend, directly or indirectly, from claim 1, they each incorporate all the terms and limitations as claim 1 in addition to other limitations, which together further patentably distinguish them over the cited references. Therefore, Applicants request that the rejection of claims 2, 5, 6 and 9-12 be withdrawn and that they be allowed.

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Claim 13 recites, in a relevant portion, "the gas spring. . . to form an angle of less than approximately 45 degrees with respect to the top of the spa when the spa cover is in the fully open position in which the spa cover forms an approximately 90 degree angle with respect to the top of the spa . . . the gas spring is adapted to resist movement of the spa cover from the fully open position toward the fully closed position." (Emphasis Added).

Claim 14 recites, in a relevant portion, "the gas spring . . . forms an angle of less than approximately 45 degrees with respect to the top of the spa when the spa cover is in the fully open position in which the spa cover forms an approximately 90 degree angle with respect to the top of the spa . . . the gas spring resists movement of the spa cover from the fully open position toward the fully closed position." (Emphasis Added).

Claim 18 recites, in a relevant portion, "orienting the gas spring . . . forms an angle of 45 degrees or less with respect to a top of the spa when the spa cover is in the fully open position in which the spa cover forms an approximately 90 degree angle with respect to the top of the spa . . . the gas spring resists movement of the spa cover from the fully open position toward the fully closed position." (Emphasis Added).

For substantially the same reason as given above in reference to claim 1, claims 13, 14 and 18 are each patentably distinguishable over Perry et al. in view of Brady and Powell et al. Therefore, applicants request that the rejection of claims 13, 14 and 18 be withdrawn and that they be allowed.

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Since claims 15-17 depend, directly or indirectly, from claim 14, they each incorporate all the terms and limitations of claim 14 in addition to other limitations, which together further patentably distinguish them over the cited references. Therefore, Applicants request that the rejection of claims 15-17 be withdrawn and that they be allowed.

Since claims 19-23 and 26 depend, directly or indirectly, from claim 18, they each incorporate all the terms and limitations as claim 18 in addition to other limitations, which together further patentably distinguish them over the cited references. Therefore, Applicants request that the rejection of claims 19-23 and 26 be withdrawn and that they be allowed.

VI. New Claims 27 and 28

Since claims 27 and 28 depend, respectively, from allowable claims 1 and 14, respectively, they incorporate all the terms and limitations of claim 1 or 14 in addition to other limitations, which together further patentably distinguish them over the cited references.

In particular, claim 27 recites, in a relevant portion, "the support arm is adapted to be fixedly attached to a side surface of the lower section of the spa cover at a location away from the hinge joint between the upper section and the lower section." Similarly, claim 28 recites, in a relevant portion, "the support arm is fixedly attached to a side surface of the lower section of the spa cover at a location away from the hinge joint between the upper section and the lower section."

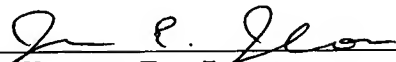
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By way of example, it can be seen in FIGs. 2-4 of Perry that an angle bracket 113 is used to couple the extension tube 112 at the fold side surface 30 near the hinge joint between the spa cover sections. (See paragraph [0043] for example) and not "to a side surface of the lower section of the spa cover at a location away from the hinge joint between the upper section and the lower section." Therefore, the limitations of claims 27 and 28 further distinguish them over at least Perry.

VII. Concluding Remarks

In view of the foregoing amendments and remarks, Applicants request an early issuance of Notice of Allowance. If there are any remaining issues that can be addressed over the telephone, the Examiner is cordially invited to call Applicants' attorney at the number listed below.

Respectfully submitted,
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